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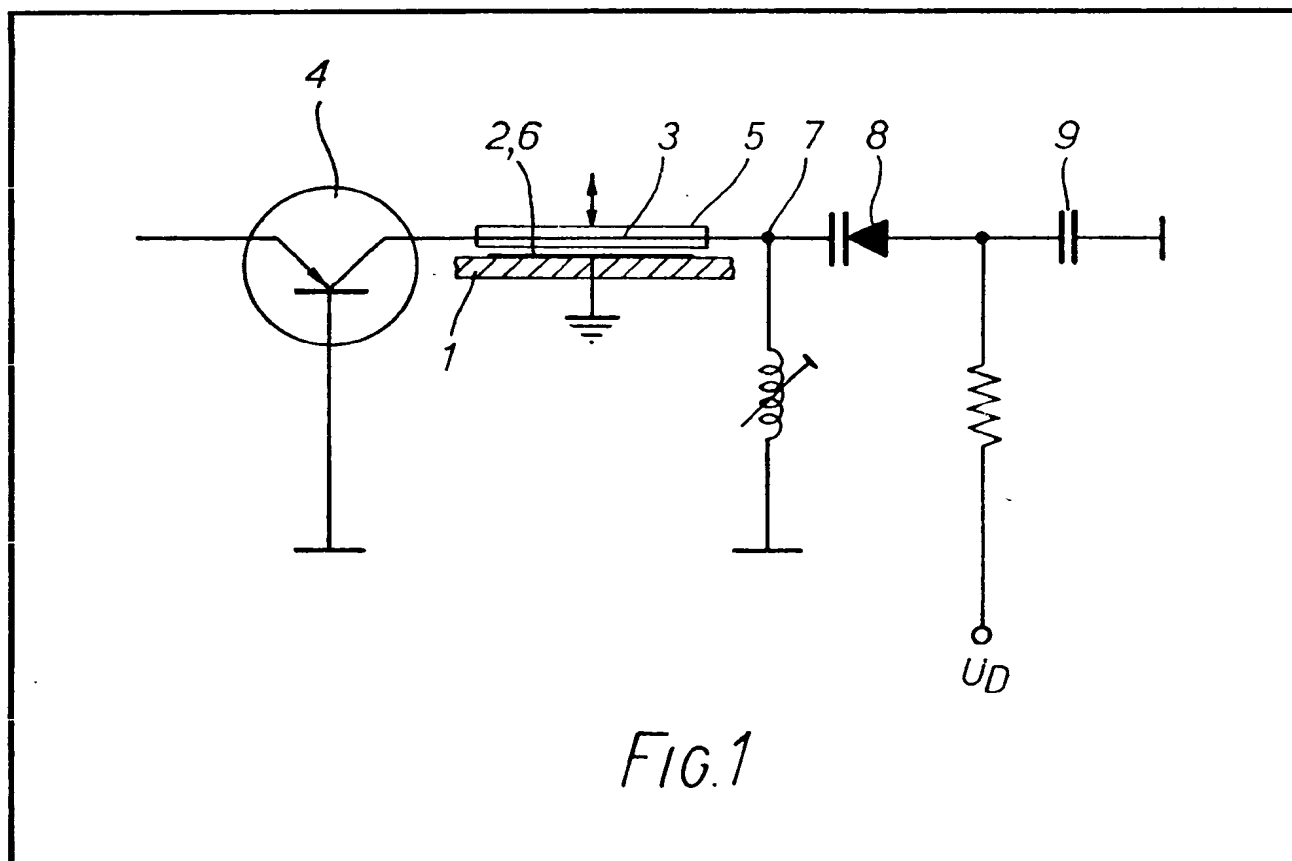
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(54) **Capacitively tuneable circuit
in $\lambda/4$ technique**

(57) The circuit comprises a printed circuit board 1 supporting the components of the circuit and also a strip conductor 2. The components include a transistor 4 (which may be an RF stage amplifier). The col-

lector of the transistor is arranged mechanically parallel to the strip conductor and the circuit 4 is tuned by bending the collector lead. The collector lead has an insulating coating 5 or the strip conductor has an insulating coating 6.



The drawing originally filed was informal and the print here reproduced is taken from a later filed formal copy.

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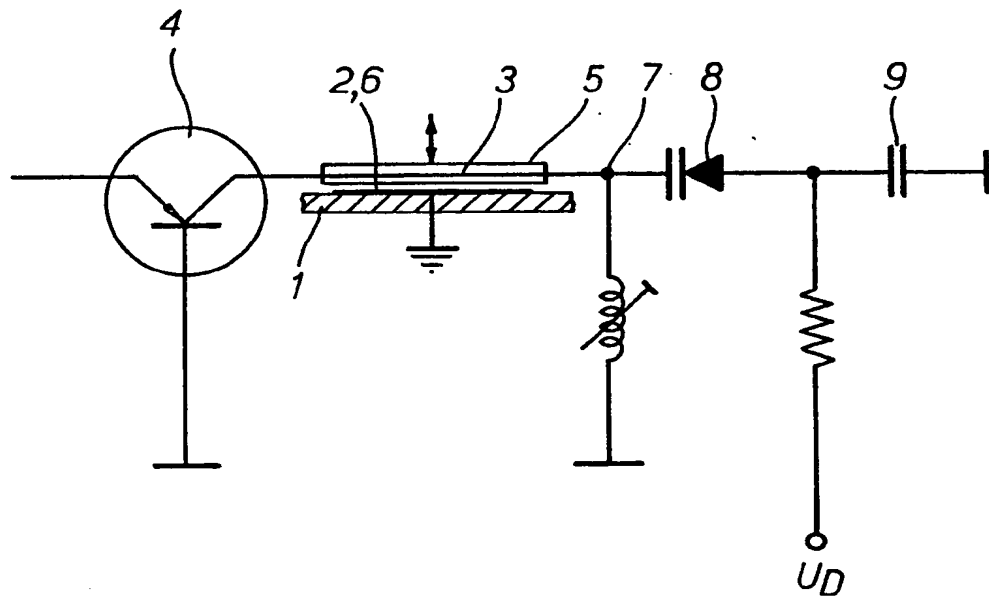


FIG. 1

SPECIFICATION

Capacitively tuneable circuit in $\lambda/4$ technique

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The present invention relates to a capacitively tuneable circuit in $\lambda/4$ technique.

In a known such tuneable oscillatory circuit arrangement a capacity trimmer is provided for tuning the oscillatory circuit at the high resistance point of the oscillatory circuit.

The tuning and synchronising are effected by adjustment of this capacity trimmer.

German Patent 11 87 279 discloses an oscillatory circuit having a cavity resonator in printed circuit form. The circuit has an inner conductor within a metallic cavity. The inner conductor comprises two leads spaced apart and arranged between the high resistance point and the earth point of the cavity resonator. The inductance of the resonator is adjusted by adjusting the distance between the two leads. The capacitance of the circuit is adjusted using a trimmer capacitor in parallel with a tuning capacitor.

In accordance with the invention, there is provided a capacitively tuneable circuit in $\lambda/4$ technique, including a circuit board on which there is arranged a strip conductor electrically connected to a reference potential, and a transistor having a collector lead extending parallel to and spaced from the strip conductor and arranged to be moveable by bending, whereby adjustment of the frequency of the circuit is effected by increasing or reducing the distance between, and thus the capacitance of, the extended collector lead and the strip conductor.

An example of the invention will now be described with reference to Fig. 1 which is a schematic diagram of a capacitively tuneable circuit in $\lambda/4$ technique.

The circuit shown in the figure may form for example part of a tuning circuit connected between an antenna and a mixer. The tuning circuit may include a band filter of which the circuit shown in Fig. 1 is the primary circuit.

The circuit comprises a printed circuit board on which the components of the circuit are arranged the components including a transistor 4 a variable capacity diode 8 and a blocking condenser 9. The transistor 4 may be an RF stage amplifier of the tuning circuit. Furthermore a strip conductor 2 is applied to the board by printed circuit technique together with the conductors connecting the components, and is connected electrically to ground. The collector lead 3 of the transistor 4, which for characterising the manufacturer is made longer than the other leads, is arranged parallel to the strip conductor 2 and is arranged to be moveable. The end of the extended collector lead 3 is connected at the high resistance point 7 of the circuit to a variable capacity diode 8 which is variable in

capacity by means of a tuning voltage U_D . A blocking condenser 9 serves for blocking the tuning voltage U_D . The adjustment of the circuit is now effected by increasing or reducing the distance between the extended collector terminal 3 and the strip conductor 2 by bending. In order to exclude a short circuit in the case of a very small distance between collector lead 3 and strip conductor 2, either the moveable extended collector lead 3 is provided with an insulating coating 5 or the strip conductor 2 is provided with an insulating coating 6.

By this construction, in particular in circuits in $\lambda/4$ technique, the trimming condenser, otherwise necessarily provided at the high resistance point 7 can be dispensed with; adjustment of the circuit at the high frequency end of the band being achieved by adjusting the position of the collector lead 3 relative to the earthed strip conductor 3.

CLAIMS

1. A capacitively tuneable circuit in $\lambda/4$ technique, including a circuit board on which there is arranged a strip conductor electrically connected to a reference potential, a transistor having a collector lead extending parallel to and spaced from the strip conductor and arranged to be movable by bending, whereby adjustment of the frequency of the circuit is effected by increasing or reducing the distance between, and thus the capacitance of, the extended collector lead and the strip conductor.
2. A circuit according to Claim 1, wherein the movable part of the collector terminal of the transistor is provided with an insulating coating.
3. A circuit according to Claim 1, wherein the strip conductor arranged on the circuit board is provided with an insulating coating.
4. A capacitively tuneable circuit substantially as hereinbefore described with reference to Fig. 1 of the accompanying drawing.

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